

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

# Application Review

**Issue Date:**

**Region:** Mooresville Regional Office  
**County:** Rowan  
**NC Facility ID:** 8000057  
**Inspector's Name:** Tonisha Dawson  
**Date of Last Inspection:** 06/28/2016  
**Compliance Code:** 3 / Compliance - inspection

<p align="center"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Norandal USA, Inc.</p> <p><b>Facility Address:</b>          Norandal USA, Inc.          1709 Jake Alexander South          Salisbury, NC 28146</p> <p><b>SIC:</b> 3353 / Aluminum Sheet Plate &amp; Foil  <b>NAICS:</b> 331315 / Aluminum Sheet, Plate, and Foil Manufacturing</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b>  <b>Fee Classification: Before:</b> Title V <b>After:</b></p>			<p align="center"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 02D .0503, 02D .0515, 02D .0516, 02D .0521, 02D .0614, 02D .0902, 02D .0958, 02D .1100, 02D .01806, 02Q .0317, 02Q .0711  <b>NSPS:</b> N/A  <b>NESHAP:</b> N/A  <b>PSD:</b> N/A  <b>PSD Avoidance:</b> N/A  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A  <b>Other:</b> TV Permit Renewal</p>																																																				
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<p><b>Review Engineer:</b> Betty Gatano</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>					<p align="center"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 02397/T23  <b>Permit Issue Date:</b>  <b>Permit Expiration Date:</b></p>																																																		

## **1. Purpose of Application**

Norandal USA, Inc. (Norandal) currently holds Title V Permit No. 02397T22 with an expiration date of May 31, 2017 for an aluminum product manufacturing facility in Salisbury, Rowan County, North Carolina. This permit application is for a permit renewal. The renewal application was received on September 1, 2016, or at least nine months prior to the expiration date, as required by General Permit Condition 3.K. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Some of the aluminum produced by Norandal is sent to nearby customers, where it is cut to size for their use. As discussed in the permit application and in a follow up letter received on October 13, 2015, Norandal is requesting to bring aluminum scraps remaining after sizing back to its site for recycling. The amount being returned is minimal, estimated at only 5% of their total feed. The two companies supplying the material do not use any chemicals on their aluminum scrap prior to being shipped to Norandal. The material brought from offsite meets the definition of clean charge, which means, in part, aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants. The use of the offsite aluminum scrap will not change the emissions from the facility nor will it affect the facility's exemption under the "NESHAP for Secondary Aluminum Production," 40 CFR Subpart RRR.

The following emission sources will be removed under this TV permit renewal:

- A natural gas/No. 2 fuel oil/spent rolling oil-fired high purity aluminum melt furnace (10 tons design capacity and 10 million Btu per hour heat input capacity) (ID No. FR-3).
- A natural gas-fired coil anneal furnace (13.5 million Btu per hour heat input capacity) (ID No. FF-21).
- A cold rolling mill for aluminum (ID No. SMS Mill) and associated mist eliminator (ID No. SMS-ME).

The permit application also included a request to modify melt furnace No. 3 (ID No. FR-6) to "one natural gas aluminum melt furnace equipped with low-NO<sub>x</sub> burners (30 tons design capacity and 25.5 million Btu per hour heat input capacity)." Upon discussions with the permit engineer, Norandal decided to submit a separate permit application for this modification.

## **2. Facility Description**

Norandal manufactures foil, light gauge sheets, and coils from 1100 and 1145 aluminum alloys. End uses of their product include automobile heat shields, insulation backing, and commercial HVAC fin stock.

### General Process Descriptions:

- A. Melting Furnaces: The melting furnaces are considered to be direct heat exchangers. The furnaces receive ingot aluminum, internally generated scrap, scrap aluminum from offsite (as noted above), and alloying material (typically copper with some iron and silicon). These materials are melted, and a flux is added (typically nitrogen, argon, and/or chlorine) to remove impurities. The flux forms a slag or dross (inorganic salts), which is scraped off the top of the molten aluminum.

- B. Holding Furnaces: Molten aluminum from the holding furnaces is continuously fed to the casters to form sheets of aluminum. These sheets are wound up in coils for further processing. The holding furnaces are considered to be direct heat exchangers.
- C. Rolling Mills: The rolling mills roll the aluminum sheets into thinner sheets and foils. Typically, the aluminum is fed into the breakdown mill first for the major size reduction. Rolling oils (98%) and additives (2%) are used on the aluminum while being rolled to dissipate heat and for other reasons. The oil is a “refined petroleum distillate” that is FDA approved. The rolling oils have the characteristics of kerosene. The exhausts from these sources vent to a mechanical collector to recover the oil mist.
- D. Anneal Furnaces: The rolled aluminum (also called coils) is heated in an inert atmosphere (nitrogen) or air to give better properties on hardness, strength, and flexibility. Nitrogen is prepared on the site in the nitrogen separator. The anneal furnaces are indirect heat exchanges as the combustion air does not come into contact with the coils. Instead, the furnaces are heated via radiant heating tubes. Annealing is a batch process.

### 3. History/Background/Application Chronology

#### Permit History since Previous Permit Renewal

- July 27, 2012 TV permit renewal issued. Air Permit No. 02397T20 was issued on July 27, 2012 with a permit expiration date of May 31, 2017.
- December 20, 2013 Air Permit No. 02397T21 was issued as an administrative amendment. The modeled emission rate for hydrogen chloride under 15A NCAC 002D .1100 was mistakenly listed as 0.69 lb/hr rather than 0.069 lb/hr. This mistake was corrected under the permit.
- August 21, 2014 Air Permit No. 02397T22 was issued as a state-only modification. The modeled emission limits under 15A NCAC 002D .1100 for chlorine and hydrogen chloride were modified, as shown in the following table:

Toxic Air Pollutant	Prior Emission Limit	Percent of AAL	Revised Emission Limit	Percent of AAL
Chlorine	0.87 lb/day	< 1	0.11 lb/hr 2.67 lb/day	< 1 5
Hydrogen Chloride	0.69 lb/hr	< 1	2.01 lb/hr	9

#### Application Chronology

- September 1, 2016 Received application for permit renewal.
- September 13, 2016 Sent acknowledgment letter indicating that the application for permit renewal was complete.
- September 13, 2016 Comments from the Mooresville Regional Office (MRO) were completed on September 12, 2016 and forwarded to Betty Gatano via e-mail on September 13, 2016.

September 27, 2016 Betty Gatano sent an e-mail to Chalam Pakala, consultant for the facility, requesting additional information on the furnaces to be removed and modified under the permit renewal.

Sept. 28 & 29, 2016 Betty Gatano discussed the modification of melt furnace No. 3 (ID No. FR-6) with Mr. Pakala and Robin Tolliver from Norandal. The facility decided to submit a separate permit application for this modification.

September 28, 2016 Draft permit forwarded for comments.

October 7, 2016 Received comments from Mark Cuilla, Permitting Supervisor.

October 13, 2016 Received a letter via e-mail requesting an increase in the amount of clean scrap aluminum to be brought onsite. Norandal requests to bring onsite approximately 500,000 pounds per month (5% of their total raw material feed) of clean aluminum scrap for processing.

October 14, 2016 Comments received from Mr. Pakala and Ms. Tolliver.

October 18, 2016 Draft permit sent to public notice.

#### 4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Pages	Section	Description of Changes
Cover and throughout permit	-	Updated all dates and permit revision numbers.
--	Insignificant Activities List	Added footnotes to insignificant activities list.
3 – 4	1.0 – Equipment List	<ul style="list-style-type: none"> <li>Removed natural gas/No. 2 fuel oil/spent rolling oil-fired high purity aluminum melt furnace (ID No. FR-3).</li> <li>Removed cold rolling mill for aluminum (ID No. SMS Mill) and associated mist eliminator (ID No. SMS ME).</li> <li>Removed anneal furnace (ID No. FF-21).</li> </ul>
5 – 8	2.1 A	Removed natural gas/No. 2 fuel oil/spent rolling oil-fired high purity aluminum melt furnace (ID No. FR-3) and natural gas-fired coil anneal furnace (ID No. FF-21) throughout Section 2.1.A.
5	2.1 A.1	Renumbered permit condition.
7	2.1 A.4.d	Clarified condition to specify action has to be taken if above normal visible emissions are observed from a furnace. The previous permit condition incorrectly stated action to be taken only if visible emissions from the sources (ID Nos. FF-10, FF-11, FF-22 through FF-26, and FR-3 through FR-14) were observed to be above normal.
8 – 11	2.1 B	Removed cold rolling mill (ID No. SMS Mill) with associated mist eliminator (ID No. SMS -ME) throughout Section 2.1.B.
9	2.1 B.1.c	Updated condition for testing to most current permitting language.

Pages	Section	Description of Changes
9	2.1 B.1.d	Removed statement to establish normal within 30 days of start-up of the cold rolling mill (ID No. SMS Mill). This equipment was never constructed and is being removed from the permit.
9	2.1 B.1.e	Reformatted permit condition.
11	2.1 B.3.d	<ul style="list-style-type: none"> <li>Removed condition requiring the Permittee to establish a normal operating range for amperage load on drive motor of the associated mist eliminator SMS-ME. This equipment was never installed.</li> <li>Renumbered the permit accordingly.</li> </ul>
11	2.1 B.3.f	Added standard reporting requirements for CAM.
12 – 19	2.2 A	Removed natural gas/No. 2 fuel oil/spent rolling oil-fired high purity aluminum melt furnace (ID No. FR-3), cold rolling mill (ID No. SMS Mill) with associated mist eliminator (ID No. SMS -ME), and natural gas-fired coil anneal furnace (ID No. FF-21) throughout Section 2.2.A.
16	2.2 A.5.d	Reformatted permit condition.
17	2.2 A.6.c	Added a permit condition requiring the Permittee to submit a signed statement semiannually specifying only clean charge, customer return, and internal scrap are used as aluminum raw materials for melt furnaces (ID Nos. FR-1, FR-4, FR-6, FR-9, FR-11, and FR-13).
18 – 19	2.2 A.8.b	Updated permit condition for combusting spent rolling under 15A NCAC 02Q .0711.
20 – 29	Section 3.0	Updated the General Conditions and List of acronyms to the most recent revision (4.0. 12/17/2015).

The following changes were made to the Title V Equipment Editor (TVEE) under this permit renewal.

- Removed one natural gas/No. 2 fuel oil/spent rolling oil-fired high purity aluminum melt furnace (10 tons design capacity and 10 million Btu per hour heat input capacity) (ID No. FR-3).
- Removed one natural gas-fired coil anneal furnace (13.5 million Btu per hour heat input capacity) (ID No. FF-21).
- Removed one cold rolling mill for aluminum (ID No. SMS Mill) and associated mist eliminator (ID No. SMS-ME).

## 5. Regulatory Review

Norandal is subject to the following regulations. The permit will be updated to reflect the most current stipulations for all applicable regulations.

- 15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers - The anneal furnaces (ID Nos. FF-1 through FF-6, FF-10 and FF-11, FF-20, and FF-22 through FF-26) are classified as indirect heat exchangers. In prior permits, the furnaces were incorrectly considered to be direct heat exchangers that were applicable to 02D .0515. This mistake was corrected with the issuance of Air Permit No. 02397T19. The allowable particulate matter (PM) emission limit under 02D .0503 is based on the maximum heat input of all anneal furnaces at the time of permitting. Please refer to Section 6.6 in the permit review in support of Air Permit No. 02397T19 for a discussion of how the allowable PM emission limit was established for each anneal furnace.<sup>1</sup>

<sup>1</sup> Rahul Thaker (February 26, 2008)

No changes are needed to the monitoring, recordkeeping or reporting requirements, and continued compliance is anticipated.

- 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes – The melt furnaces and holding furnaces (ID Nos. FR-1, FR-2, and FR-4 through FR-14) are direct heat exchangers and are subject to 02D .0515. In prior permits, the four in-line degassers/filters (ID Nos. MD-1 through MD-4) were also applicable to 02D .0515, but the applicability was removed under Air Permit No. 02397T19. As indicated in the previous permit review,<sup>1</sup> it was determined that emissions of particulates are not expected from the degassers.

No changes are needed to the monitoring, recordkeeping or reporting requirements, and continued compliance is anticipated.

- 02D .0516 Sulfur Dioxide Control Requirement: Sources shall not emit more than 2.3 pounds of sulfur dioxide per million BTU input. The melt furnaces, the holding furnaces, and the anneal furnaces all fire natural-gas fuel. This fuel is inherently low enough in sulfur that compliance is expected. Therefore, no monitoring, recordkeeping, or reporting is required when these furnaces fire natural-gas.

Certain melt furnaces (ID Nos. FR-1, FR-4, and FR-6) and holding furnaces (ID Nos. FR-2, FR-5, FR-7, and FR-8) also fire No. 2 fuel oil and spent rolling oil. As with natural-gas, no monitoring, recordkeeping, or reporting are required when these furnaces fire with No. 2 fuel oil due to the low sulfur content. However, the permit does require a limit on the content of sulfur in the spent rolling oil to ensure compliance with 02D .0516. As specified in the permit, the sulfur content is limited to 1% by weight. Recordkeeping of the amount of spent oil delivered and combusted at the facility, sampling (once per year), and reporting (annual), are required to ensure that the facility does not exceed this sulfur limit when firing spent rolling oil.

No changes are needed to the monitoring, recordkeeping or reporting requirements, and continued compliance is anticipated.

- 15A NCAC 02D .0521, Control of Visible Emissions – The following equipment was manufactured and operating as of July 1, 1971 and must not have visible emissions of more than 40 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(c):
  - Melt Furnace ID No. FR-1.
  - Holding Furnace ID No. FR-2.
  - Anneal Furnaces ID Nos. FF-1 through FF-6 and FF-20.
  - Rolling Mills ID Nos. RM-1, RM-2, and RM-3.

The following equipment was manufactured after July 1, 1971 and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d):

- Melt Furnaces ID Nos. FR-4, FR-6, FR-9, FR-11, and FR-13.
- Holding Furnaces ID Nos. FR-5, FR-7, FR-8, FR-10, FR-12, and FR-14.
- Anneal Furnaces ID Nos. FF-10, FF-11, and FF-22 through FF-26.
- Rolling Mills ID Nos. RM-4 and RM-5.
- Degassers ID Nos. MD-1 through MD-7.

Norandal is required to make daily visible emission observations for the furnaces and weekly observations for the rolling mills and degassers. As of the last compliance inspection conducted on June 28, 2016, melt furnaces ID Nos. FR-9, FR-11 and FR-13, holding furnaces ID Nos. FR-10, FR-12, and FR-14, anneal furnaces ID Nos. FF-25 and FF-26, and degassers ID Nos. MD-5 through MD-7 have not yet been installed. The requirement to establish “normal” visible emissions within 30 days of start-up will remain in the permit for these emission sources.

No changes are needed to the monitoring, recordkeeping or reporting requirements, and continued compliance is anticipated.

- 15A NCAC 02D .0530, Prevention of Significant Deterioration (PSD) – The facility has installed Best Available Control Technology (BACT) for VOC on two rolling mills (ID Nos. RM-4 and RM-5) that were constructed during a 1980 expansion. The BACT conditions were added with the issuance of Air Permit No. 02379T18. See section 6 for more discussion of BACT and PSD.
- 15A NCAC 02D .0614, Compliance Assurance Monitoring (CAM) – The aluminum rolling mills (ID Nos. RM-1 through RM-5) are subject to CAM. Monitoring and recordkeeping requirements under CAM were added for the associated mist eliminators with the issuance of Air Permit No. 02397T19. See section 6 for more discussion of CAM.
- 15A NCAC 02D .0902, Reasonably Available Control Technology for Volatile Organic Compounds (VOC) – Norandal is subject to RACT for VOC because the facility-wide potential to emit exceeds 100 tons per year. RACT requirements for the rolling mills and the anneal furnaces were added under Air Permit No. 02397T19. All existing emission sources were to be in compliance with the RACT for VOC by April 1, 2009. New sources constructed after March 1, 2007 must be in compliance with RACT for VOC upon start-up. See section 6 for more discussion of RACT.
- 15A NCAC 02D .0958, Work Practices for Sources of VOC - This condition is applicable facility-wide. No changes to the permit are required, and continued compliance is anticipated.
- 15A NCAC 02D .1100, Control of Toxic Air Pollutants – This rule is state enforceable only. The facility is subject for arsenic and inorganic arsenic compounds, benzene, beryllium, cadmium, bioavailable chromate pigments as chromium (VI) equivalent, formaldehyde, chlorine, and hydrogen chloride. See Section 7 for further discussion regarding air toxics.
- 15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions - This condition is state enforceable only and applicable facility-wide. No changes to the permit are required, and continued compliance is anticipated.
- 15A NCAC 02Q .0317, Avoidance Conditions – The facility has taken avoidance conditions for the following regulations. More discussion regarding these avoidance conditions is presented in Section 6:
  - 15A NCAC 02D .0531, Sources in Nonattainment Areas – Rowan County was previously in nonattainment for ozone, and the facility is major facility for VOCs under New Source Review (NSR). With the permit modification under Air Permit No. 02397T19, the facility accepted an avoidance condition for 02D .0531 for VOCs.

- 15A NCAC 02D .1111, Maximum Achievable Control Technology (MACT) –The facility is exempt under the “NESHAP for Secondary Aluminum Production,” 40 CFR Subpart RRR because it only burns clean charges. See Section 6 for more discussion of MACT.
- 15A NCAC 02D .1402(d), Reasonable Available Control Technology for Nitrogen Oxides (NO<sub>x</sub>) – Norandal has taken a permit condition to avoid applicability to RACT for NO<sub>x</sub> by limiting NO<sub>x</sub> emissions to 100 tpy and 560 lbs/day from May 1 through September 30 annually. The avoidance condition for RACT for NO<sub>x</sub> was added under Air Permit No. 02397T19. See Section 6 for more discussion of RACT.
- 15A NCAC 02Q .0711, Emission Rates Requiring a Permit – This rule is state enforceable only. The facility is subject for benzo(a)pyrene, n-hexane, manganese and compounds, mercury, aryl and inorganic compounds, toluene, and xylene. See Section 7 for further discussion regarding air toxics.

## **6. NSPS, NESHAPS/MACT, NSR/PSD, 112(r), RACT, CAM**

### NSPS

The Permittee is not currently subject to any New Source Performance Standards. This permit renewal does not affect this status.

### NESHAPS/MACT

Although initially permitted as being subject to the “NESHAP for Secondary Aluminum Production,” 40 CFR Subpart RRR, the facility submitted a permit application on March 7, 2003, requesting an exemption. The definitions in MACT Subpart RRR specify aluminum die casting facilities, aluminum foundries, and aluminum extrusion facilities are not considered to be secondary aluminum production facilities if the only materials they melt are clean charges, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns. By these definitions, MACT Subpart RRR is not applicable to Norandal because the facility processes only clean charges and does not meet the definition of secondary aluminum production facility as defined in 40 CFR 63.1503

When the permit application was submitted in 2003, the compliance date for MACT Subpart RRR had not passed, and, the EPA’s “Once-In-Always-In” policy for MACT did not apply to this facility. Exemption from MACT was allowed, and the avoidance condition for MACT Subpart RRR was first added under Air Permit No. 02397T17.

For the facility to remain exempt from MACT Subpart RRR, Norandal must limit the aluminum raw materials for its melt furnaces to only clean charge, customer returns and internal scrap, and must not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decorating kilns. The permit includes monitoring, recordkeeping, and reporting requirements for tracking the raw materials processed in the melt furnace to ensure that the “clean charge” requirement is met. However, the permit has no requirements for tracking HAPs, which at first may seem like an oversight. The facility’s potential emissions of total HAPs are estimated at less than 4 tpy. The facility is inherently a minor HAP source, and monitoring, recordkeeping or reporting is not required to ensure compliance. It should be noted that this exemption from MACT Subpart RRR will need to be re-evaluated if the potential emissions of HAPs increase in the future.



The facility is also permitted to burn spent rolling oil in several of its melting and holding furnaces. 40 CFR Part 241 is clear in that undiscarded “traditional fuels” are not considered solid waste. The definition for traditional fuels includes oils that meet the specifications under 40 CFR 279.11. As shown in the table below, the spent rolling oil meets these specifications. Therefore, the rolling oil is not considered a solid waste and is not be subject to requirements under the Commercial and Industrial Solid Waste Incinerator rules.

<b>Constituent/Property</b>	<b>Maximum limit under 40 CFR 279.11</b>	<b>Permitted Limit*</b>
Arsenic	5 ppm maximum	1 ppm maximum
Cadmium	2 ppm maximum	2 ppm maximum
Chromium	10 ppm maximum	5 ppm maximum
Lead	100 ppm maximum	100 ppm maximum
Total Halogens	4000 ppm maximum	1000 ppm maximum
Flash Point	100 F minimum	100 F minimum
Ash	--	1.0 % maximum
* The facility has to meet these requirements for the spent rolling oil to ensure compliance with NC air toxics.		

Boilers at area sources of HAPs may be subject to the “NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers,” (GACT Subpart 6J) depending on the fuels fired in the boiler. Per 40 CFR 63.11195(e), gas-fired boilers as defined under 40 CFR 63.11237 are not subject to GACT Subpart 6J. Therefore, this rule is not applicable to the two natural gas fired heaters (ID No. I-TH), all the anneal furnaces, and all of the holding furnaces. Some of the melt furnaces (ID Nos. FR-1, FR-4, and FR-6) and holding furnaces (ID Nos. FR-2, FR-5, FR-7, and FR-8) can fire with natural gas, No. 2 fuel oil, or spent rolling. However, these furnaces are not subject to GACT Subpart 6J because the rule does not apply to direct fired combustion units.

### **NSR/PSD**

On September 19, 2006, the DAQ issued a Notice of Violation (NOV) to Norandal for a 1980 expansion, involving the construction of two aluminum rolling mills (ID Nos. RM-4 and RM-5) without obtaining a preconstruction permit under PSD. At the time of the 1980 expansion, Rowan County was in attainment for ozone. Norandal was an existing PSD major stationary source, with the potential to emit 250 tons per year of VOC. The facility initially submitted a BACT analysis and permit application on November 13, 2006 and submitted a revised version on May 31, 2007 to address the NOV. The DAQ determined that the existing oil mist eliminators (ID Nos. RM-4ME and RM-5ME) and stack skimmers (ID Nos. RM-4SS and RM-5SS), in combination with use of rolling oil consisting of 98% saturated aliphatic hydrocarbons, were considered BACT for these source. The BACT limits were incorporated into the permit with the issuance of Air Permit No. 02397T18.

In 2006, Norandal submitted a permit application to add new casting lines, anneal furnaces, and the SMS mill to the facility. At that time, Rowan County was in nonattainment for ozone and the facility was an existing major source of VOC under NSR. In order to avoid applicability to NSR, the facility accepted a limit to restrict VOC emissions from the expansion to less than 40 tons, which is the NSR significance threshold. The facility-wide avoidance limit for VOCs of 1,486 tpy, on a rolling basis, was added to the permit with the issuance of Air Permit No. 02397T19. The limit was determined by adding the project avoidance limit with the average baseline actual emissions. The facility selected

2001 and 2002 for its baseline period, with VOC emissions of 1,385 and 1,509 tons per year, respectively. Therefore, the PSD avoidance limit was calculated as follows:

VOC limit = Average Baseline Actual Emissions + Project Avoidance limit

$$\text{VOC limit} = \left( \frac{1,385 + 1,509}{2} \right) + 39 \text{ tons} = 1,486 \text{ tpy}$$

Please refer to Section 7 in the permit review in support of Air Permit No. 02397T19 for a detailed discussion of PSD and NSR.<sup>1</sup>

### RACT

Norandal is subject to RACT because it is located in Rowan County (currently in attainment/maintenance for the 1997 8-hour ozone standard) and it has the potential to emit more than 100 tons per year of VOC and/or 100 tons per year or 560 pounds per calendar day beginning May 1 through September 30 of NO<sub>x</sub>. Norandal elected to take an avoidance condition for NO<sub>x</sub> RACT. For the aluminum rolling mills (RM-1 through RM-5), RACT for VOC was determined to be oil mist eliminators and stack skimmers, in combination with use of rolling oil consisting of 98% saturated aliphatic hydrocarbons. For the anneal furnaces, RACT was determined to be the use of rolling oil consisting of 98% saturated aliphatic hydrocarbons. The RACT for VOCs and the avoidance conditions for NO<sub>x</sub> were incorporated into Air Permit No. 02397T19.

### 112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds. This permit renewal does not affect the 112(r) status of the facility.

### CAM

40 CFR Part 64 is applicable to any pollutant-specific emission unit, if the following three conditions are met:

- the unit is subject to any (non-exempt: e.g. pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- unit's precontrol potential emission rate exceeds either 100 tons/yr (for criteria pollutants) or 10/25 tons/yr (for HAPs).

The rolling mills (ID Nos. RM-1 through RM-5) meet these three requirements and are applicable to CAM. As required under 40 CFR 64.4, Norandal submitted a CAM plan for monitoring the amperage load on the drive motors on the mist eliminators with previous permit application for a Title V renewal/modification submitted in 2007. The permit condition was updated to add standard reporting language under this permit renewal. Continued compliance with CAM is anticipated.

## **7. Facility Wide Air Toxics**

The facility triggered a review under air toxics for the first time with the application for the previous Title V renewal/modification. A toxics evaluation was conducted on emissions from melt furnaces, holding furnaces, and degassers. The anneal furnaces were exempt from a toxics review at that time

because of the combustion source exemption. Indirect combustion units burning only unadulterated fossil fuel were previously exempt from NC air toxics as specified in 02Q .0702(a)(18) and 02Q .0703.

The evaluation showed emissions of arsenic, benzene, beryllium, cadmium, chromium, formaldehyde, chlorine, and hydrochloric acid exceeded their respective toxics permitting emission rate (TPERs). Modeling was conducted to demonstrate compliance with the Acceptable Ambient Levels (AAL) for these TAPs. Using the worst-case assumption of operating on No. 2 fuel oil for 8,760 hours per year, only chromium (Cr<sup>+6</sup>) would exceed the AAL, and therefore, monitoring, recordkeeping, and reporting was only required for chromium to ensure that the AAL is not exceeded. Please refer to Section 8 in the permit review in support of Air Permit No. 02397T19 for more detail on the air toxics evaluation.

## **8. Facility Emissions Review**

There is no change in Title V potential emissions for this renewal. Actual emissions for 2010 and 2014 as reported in the emission inventories are presented in the header to this permit review.

## **9. Compliance Status**

During the most recent inspection, conducted on June 28, 2016, by Tonisha Dawson of the MRO, the facility appeared to be in compliance with all applicable requirements. A signed Title V Compliance Certification (Form E5) indicating that the facility was in compliance with all applicable requirements was included with the permit renewal.

A Notice of Violation (NOV) was issued to Norandal on September 2, 2014 for recordkeeping and reporting violations. The NOV has been resolved and the facility has had no additional violations within the last five years.

## **10. Public Notice/EPA and Affected State(s) Review**

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. South Carolina and the local air quality programs for Forsyth and Mecklenburg counties are within 50 miles of this facility and will be notified accordingly.

## **11. Other Regulatory Considerations**

- A P.E. seal is NOT required for this application.
- A zoning consistency determination is NOT required for this application.
- A permit fee is not required for this modification.

## **12. Recommendations**

The permit renewal application for Norandal USA, Inc. located in Salisbury, Rowan County, NC has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC

DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The NC DAQ recommends the issuance of Air Permit No. 02397T23.